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10/718,673

11/24/2003

Fu-I Yang

MR1679-259

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06/05/2006

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EXAMINER

BOATENG, ALEXIS ASIEDUA

ART UNIT

PAPER NUMBER

2838

DATE MAILED: 06/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/718,673

Applicant(s)

YANG, FU-I

Examiner

Alexis Boateng

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

2. Regarding claim 5, the phrases "such as" and "etc" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "such has" and "etc"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1- 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsin (U.S. 2003/0062873) in view of Chen (U.S. 5,847,545) and in further view of Matsuura (U.S. 6094,034).

Regarding claim 1, Hsin discloses in figure 2 item 57 wherein a charging seat having a charging groove for receiving and charging a battery pack in a mobile device. Hsin further discloses in figure 2 item 104 wherein a power supply formed in a cylindrical shape and adapted to cigarette lighter in the car for insertion there into to lead the power source into the charging seat. Hsin does

not disclose wherein the system comprises a DC-DC converter and a charging control circuit; and wherein the power cords are embedded within the power supply head create an electrical connection with the DC-DC converter. Chen discloses in figure 10 item 46, wherein a DC-DC converter is comprised. Chen further discloses in figure 8 item U2 charging control circuit. Chen discloses in figures 6 and 10 wherein the DC-DC converter, item 46, is comprised with the head of the system, item 10. At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify the Hsin system with the Chen system so that the interface is modified to properly charge devices of which need a much lower charge than a typical car battery provides. Neither Hsin nor Chen disclose wherein the charger includes a pulse width modulation (PWM) control switch, a microprocessor, a voltage detection circuit and a current detection circuit, and wherein, after the voltage and current detection of the batteries received within the charging groove, the microprocessor controls the pulse width modulation control switch for switching the power supplied from the DC-DC converter to the charging groove in the ON or OFF state. Matsuura discloses in figure 1 item 382 wherein an ADC converter is used to digitize the output from the DC-DC converter. Matsuura further discloses in column 7 lines 56 through column 8 line 7, and in figure 1, item 390 and 392, respectively, a voltage and current detecting circuits. The main circuit, figure 1, item 38, acts a microprocessor that controls the pulse width modulation control switch for the power supplied from the DC-DC converter to the charging groove in the ON or

OFF state. At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify the Hsin and Chen system with the Matsuura system so that over-voltage and over-current charges can be detected and prevented so that the battery and the apparatus are not damaged during charging sessions.

Regarding claim 2, Hsin discloses wherein figure 2, power supply head item 104, and the charging seat item 10 are attached to each other.

Regarding claim 3, Hsin discloses wherein figure 4, power supply head, item 104, is pivotally connected by item 105, to the charging seat, item 10, so that the power supply head is swiveled on a pivot in a sloping position.

3. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hsin (U.S. 2003/0062873) in view of Chen (U.S. 5,847,545) and in further view of Chen (U.S. 5,839,919).

Regarding claim 4, Neither Hsin nor Chen ('545) disclose wherein the power supply head includes a positive terminal telescopically extended from the center of the distal end of the power supply head and two negative terminals projecting from both sides of the circumference thereof in an arched form. Chen ('919) discloses wherein figure 2 item, 311 and 312, respectively, the power supply comprises a positive end and two negative terminals on the circumference. At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify the Hsin and Chen ('545) system with the Chen ('919) system so that a proper charge is ensured while charging via a vehicle's outlet.

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4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hsin (U.S. 2003/0062873) in view of Chen (U.S. 5,847,545) and in further view of Bushong (U.S. 5,686,811).

Regarding claim 5, neither Hsin nor Chen disclose wherein the charging groove is so configured that any types of dry batteries, such as AAA, AA, Li-ion, Ni-MH, Ni-Cd, etc can be fitted in to the charging groove. Bushong discloses in column 7 lines 42-50 wherein a variety of batteries may be charged in a charging groove, compartment under lid 105 in figure 1, within the system. At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify the Hsin and the Chen system with the Bushong system so that a wide variety of batteries and battery packs may be used, as disclosed in figures 2, 8 and 9, where different batteries are accommodated within the same system.

Response to Arguments

5. Applicant's arguments filed 3/19/06 have been fully considered but they are not persuasive. **Regarding claim 1**, the applicant argues that the Matsuura reference does not disclose or suggest operating the charge switching circuit as a pulse width modulation, modulating the pulse duty cycle for controlling the voltage and current supply to the batteries as they are charged. Matsuura discloses in column 4 line 55 – column 5 line 27 wherein the DC/DC converter controls the voltage and current supply to the batteries and the FET switches play the role of pulse switches for switching a

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charge current output, thus modulating the pulse duty cycle. Also, see arguments above. ~~GS~~

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexis Boateng whose telephone number is (571) 272-5979. The examiner can normally be reached on 8:30 am - 6:00 pm, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Karl Easthom can be reached on (571) 272-2084. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AB


KARL EASTHOM
SUPERVISORY PATENT EXAMINER